

19. (New) The method of claim 18, wherein the non-thermal physical characteristic comprises at least one of volume of ink drops, number of ink drops and placement of ink drops.

20. (New) The method of claim 16 wherein the non-thermal physical characteristic comprises at least one of absorption, paper dimension, bleeding coefficient and reflectivity.

REMARKS

With this Amendment, claims 1-20 are pending in the present application. Claims 13, 15 and 16 have been amended herein. Claims 17-20 are newly presented.

Claims 1-16 stand rejected as being unpatentable over U.S. Patent No. 5,534,890 (hereafter "Krug") variously in view of U.S. Patent No. 6,243,480 (hereafter "Zhao"). Applicant respectfully traverses this rejection.

Claim 1 in view of Krug and Zhao.

With respect to claim 1, Applicant notes with curiosity the suggestion in paragraph 7, line 4, of the Final Action (March 13, 2002) that Krug shows a paper medium carrying a data matrix. Applicant understands Krug's data matrix to be located in memory of a computer (see, e.g., Krug at Col. 2, lines 36-45). Our claim 1, in contrast, recites that a paper medium carries a steganographic message.

Moreover, Applicant questions the proposed combination of Krug and Zhao. (Applicant also questions the motivation for combining the documents as suggested in the office action.).

Applicant respectfully requests that the rejection of claim 1 be withdrawn.

Claims 2-5 should be allowed for at least the reasons noted above with respect to claim 1.

With respect to claim 6, Krug's mention of bar code markings is not understood to suggest that a digital watermark is repeated throughout at least a portion of the paper medium. We read Col. 6, lines 4-6, as suggesting the application of one bar code per label strip, not repeated bar codes per label strip.

Claim 7 in view of Krug and Zhao

Claims 7 should be allowed for at least reasons that are analogous to those presented above with respect to claim 1. Claims 8-12 are also believed allowable.

Claim 13 in view of Krug and Zhao

Claim 13 has been amended to recite a method for adapting operation of an *ink-jet* printer to a type of print media. The method includes the steps of: i) capturing an image of at least a portion of a print media; ii) steganographically decoding a message from the image, including printer control information; and iii) using the printer control information to adapt operation of the *ink-jet* printer, *including adapting at least one of volume of ink drops, number of ink drops and placement of ink drops*, according to physical characteristics of the print media.

Krug's contemplation of thermal printers and thermal energy is not understood to teach or suggest such an inventive combination as is recited in claim 13. Zhao is not understood to cure Krug's deficiencies.

Other deficiencies in the proposed Krug and Zhao combination are not belabor herein.

Claim 13 is believed allowable over the cited art.

Claim 14 is also believed allowable over the cited art for similar reasons.

Claims 15 and 16

Claim 15 has been amended to even further clarify that the at least one physical characteristic is "non-thermal" in nature. In contrast, Krug contemplates thermal energy (see, e.g., Krug at Col. 1, lines 56-66 and at Col. 9, lines 28-30).

Claim 17 further defines this non-thermal physical characteristic as being at least one of absorption, paper dimension, bleeding coefficient and reflectivity.

Claim 16 envisions a non-thermal printing environment. Claim 16 also envisions that the at least one physical characteristic is "non-thermal" in nature.

Claim 18 recites that the non-thermal printer of claim 16 comprises an ink-jet printer.

Claim 19 recites that the non-thermal physical characteristic of claim 18 comprises at least one of volume of ink drops, number of ink drops and placement of ink drops.

Claim 20 recites that the non-thermal physical characteristic of claim 16 comprises at least one of absorption, paper dimension, bleeding coefficient and reflectivity.

Krug and Zhao are not understood to teach or suggest such inventive combinations of features as recited in claim 15-20.

Conclusion

Withdrawal of the above-noted rejections and early passage to issuance are respectfully requested in view of the above amendments and remarks. (Applicant does not belabor other shortcomings of the art herein.).

The Examiner is invited to telephone the undersigned at 503-495-4575 if any issue remains.

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Attachments: Marked-up Claims 13, 15 and 16

Marked-up Claims

1. (Unchanged) A paper medium carrying a steganographic message, the steganographic message including printer control information related to the paper medium that is readable by a machine from an image captured of at least a portion of the paper medium, and that is operable to control a printer so as to optimize print quality for physical characteristics of the paper medium.

7. (Unchanged) A printer system comprising:
an image sensor for capturing an image of print media;
a steganographic decoder for reading a steganographic message from the image of the print media, the message including printer control information for optimizing printer operation for the print media; and
a printer control unit in communication with the decoder for receiving the printer control information and using the information to optimize printer operation for physical characteristics of the print media.

13. (Twice Amended) A method for adapting operation of [a] an ink-jet printer to a type of print media comprising:
capturing an image of at least a portion of a print media;
steganographically decoding a message from the image, including printer control information; and
using the printer control information to adapt operation of the ink-jet printer, including adapting at least one of volume of ink drops, number of ink drops and placement of ink drops, according to physical characteristics of the print media.

15. (Amended) A paper medium carrying a steganographic message, the steganographic message including printer control information related to at least one non-thermal physical characteristic of the paper medium, the printer control information being readable by a machine from an image captured of at least a portion of the paper medium, and the printer control information being operable to control a printer so as to optimize print quality for the at least one non-thermal physical characteristic of the paper medium.

16. (Amended) A method for adapting operation of a non-thermal printer to a type of print media comprising:

- capturing an image of at least a portion of a print media;
- steganographically decoding a message from the image, the message including printer control information related to at least one non-thermal physical characteristic of the print media; and
- using the printer control information to adapt operation of the non-thermal printer.

17. (New) The method of claim 15 wherein the non-thermal physical characteristic comprises at least one of absorption, paper dimension, bleeding coefficient and reflectivity.

18. (New) The method of claim 16 wherein the non-thermal printer comprises an ink-jet printer.

19. (New) The method of claim 18, wherein the non-thermal physical characteristic comprises at least one of volume of ink drops, number of ink drops and placement of ink drops.

20. (New) The method of claim 16 wherein the non-thermal physical characteristic comprises at least one of absorption, paper dimension, bleeding coefficient and reflectivity.